

Amendments to the Claims

Please amend the claims as follows:

1. (Currently Amended) In a third generation mobile telecommunications network, a method of delivery packets in layer 2 to a mobile node in a foreign network comprises the steps of:

providing an Address Resolution Protocol (ARP) entity;
setting up a home agent in a home network of the mobile node;
allocating a Care of Address to the mobile node; and
setting up a Dynamic Host Configuration Protocol (DHCP);
setting up a proxy ARP entity; and

informing the proxy ARP entity of the Care of Address and the Media Access Control address of the mobile node, in which packets are transmitted from a correspondent node to the mobile node and the Care of Address is a Collocated Care of Address comprising the further steps of:

a last routing switch in the foreign network broadcasting an ARP request;
the proxy ARP responding with an ARP reply message containing the MAC address of the mobile node;
the last routing switch updating its ARP cache table by adding a unique mapping between the Care of Address and the MAC address of the mobile node; and
the last routing switch delivering the packet to said MAC address.

2. Cancelled.

3. (Currently Amended) A method according to Claim 21 in which the ARP request from said last routing switch has the frame format:

Sender's MAC; Sender's IP address; MN's MAC (NULL); MN's COA; and the ARP reply from the proxy ARP server has the frame format:

MN's MAC; MN's COA; Sender's MAC; Sender's IP address.

4. (Currently Amended) A method according to Claim 1 in which packets are transmitted from the mobile node to ~~the~~^a correspondent node comprising the further steps of the ARP entity checking whether the destination of the packets is a node in the home network of the mobile node, and if so, the mobile node sending an ARP request using its own home IP address as the sender's address; and the proxy ARP responding with a ARP reply addressed to the MN's IP address.

5. (Original) A method according to Claim 4 in which the ARP request from the MN has the frame format:-

MN's MAC; MN's Home IP Address; CN's MAC (NULL); CN's IP address;
and the ARP reply from the proxy ARP server has the frame format:-

FN Default Gateway's MAC; CN's IP Address; MN's MAC; MN's IP address.

6. (Original) A method according to Claim 4 in which the destination of the packets is a node which is not in the home network of the mobile node, comprising the further steps of:

the mobile node sending an ARP request using the MAC address of a Default Gateway in the foreign network as the sender's address;

the Default Gateway receiving the ARP request and broadcasting it; and

the proxy ARP responding by sending an ARP reply to the MN.

7. (Original) A method according to Claim 6 in which the ARP request from the MN has the frame format:-

MN's MAC; MN's Home IP Address; HN's Default Gateway (NULL); HN's Default Gateway's IP address;

and the ARP reply from the proxy ARP server has the frame format:-

FN Default Gateway's MAC; HN Default Gateway's IP Address; MN's MAC;
MN's Home IP Address.

8. (Newly Added) In a third generation mobile telecommunications network, a method of delivery packets in layer 2 to a mobile node in a foreign network comprises the steps of:

- providing an Address Resolution Protocol (ARP) entity;
- setting up a home agent in a home network of the mobile node;
- allocating a Care of Address to the mobile node; and
- setting up a Dynamic Host Configuration Protocol (DHCP);
- setting up a proxy ARP entity; and

informing the proxy ARP entity of the Care of Address and the Media Access Control address of the mobile node, in which packets are transmitted from the mobile node to the correspondent node comprising the further steps of the ARP entity checking whether the destination of the packets is a node in the home network of the mobile node, and if so, the mobile node sending an ARP request using its own home IP address as the sender's address; and the proxy ARP responding with a ARP reply addressed to the MN's IP address.

9. (Newly Added) A method according to Claim 8 in which the ARP request from the MN has the frame format:-

MN's MAC; MN's Home IP Address; CN's MAC (NULL); CN's IP address; and the ARP reply from the proxy ARP server has the frame format:-

FN Default Gateway's MAC; CN's IP Address; MN's MAC; MN's IP address.

10. (Newly Added) A method according to Claim 8 in which the destination of the packets is a node which is not in the home network of the mobile node, comprising the further steps of:

- the mobile node sending an ARP request using the MAC address of a Default Gateway in the foreign network as the sender's address;
- the Default Gateway receiving the ARP request and broadcasting it; and
- the proxy ARP responding by sending an ARP reply to the MN.

11. (Newly Added) A method according to Claim 10 in which the ARP request from the MN has the frame format:-

MN's MAC; MN's Home IP Address; HN's Default Gateway (NULL); HN's Default Gateway's IP address; and the ARP reply from the proxy ARP server has the frame format:-

FN Default Gateway's MAC; HN Default Gateway's IP Address; MN's MAC; MN's Home IP Address.